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SOIL CONSERVATION

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SOIL CONSERVATION •

JULY 1952
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SECRETARY OF AGRICULTURE

ROBERT M. SALTER
CHIEF, SOIL CONSERVATION SERVICE

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★ THIS MONTH ★

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WELLINGTON BRINK
Editor
Art Work by
W. HOWARD MARTIN

SOIL CONSERVATION is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business, under approval (August 6, 1951) of the Director of the Budget. SOIL CONSERVATION supplies information for workers of the Department of Agriculture and others engaged in soil conservation.

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SEED PRODUCTION STRESSED.—More than 1,000 farmers attended annual conservation information-day programs conducted recently by four northwest Arkansas soil conservation districts. The meetings were held at Bentonville, Green Forest, Huntsville, and Fayetteville. Local firms and organizations cooperated fully in making the programs a success.

Subjects taken up at each of the meetings included grass and legume seed production, PMA payments, bee pollination, seed certification and testing, adjustment and use of combines in harvesting seed, and cleaning of seed.

Main object of the information-day programs this year was to stimulate interest in the production of grass and legume seed in northwest Arkansas.

Taking part in the programs were the Soil Conservation Service, Production and Marketing Administration, county agents,

(Continued on page 285)

FRONT COVER.—This pond on the farm of Tom Allen, in the Placer County (Calif.) Soil Conservation District, is one of a great many developed for irrigation purposes in that area. See the article, "Storage Ponds Multiply Value of Range," in this issue. The photographer was Robert B. Branstead.

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UNITED STATES DEPARTMENT OF AGRICULTURE
FARMERS HOME ADMINISTRATION
PRODUCTION & MARKETING ADMINISTRATION
FEDERAL CROP INSURANCE CORPORATION
SOIL CONSERVATION SERVICE
FOREST SERVICE
Soil Conservation Objective
"The basic physical objective of soil conservation activities by Department agencies
Shall be
The use of each acre of agricultural land within its capabilities and the treatment of each acre of agricultural land in accordance with its needs for protection and improvement."

SINGLE STATE HEADQUARTERS FOR SIX FARM AGENCIES

ABOVE is the signpost of a new day in agriculture, a day in which all major forces combine their efforts toward the attainment of a common end. It stands at the entrance to the recently opened USDA Building in Alexandria, La., which is the joint State headquarters of a team of major Federal agencies working with landowners and operators on the land.

The building is privately owned, is rented by the Government, and was financed in part from a noninterest-bearing loan advanced by public-spirited citizens.

Under one roof in this efficiently arranged center are the Production and Marketing Administration, the Farmers Home Administration, the Federal Crop Insurance Corporation, the Southern Forest Experiment Station (Alexandria Branch), the United States Forest Service, and the Soil Conservation Service.

Every foot of the building is occupied. There is a telephone-switchboard operator and receptionist who is employed jointly. In due course, it is hoped to have a number of other common activities, such as mimeographing and the handling of supplies and mail. The advantages of being housed together are already being realized: an increase in efficiency, a saving of money for the Government, a closer working relationship among agencies.

Dedication of this unique State headquarters building—generally regarded as the forerun-

ner of many similar ventures—was marked by floral offerings from various Alexandria business houses and a celebration which included addresses by Senator Allen J. Ellender and Hon. Clarence J. McCormick, Under Secretary of Agriculture.

"This building," said Senator Ellender, "marks the beginning of a new era of cooperation and coordination among all who have the welfare of the farmer at heart."

Secretary McCormick spoke of the occasion as "a new and inspiring experience" and referred to the new building as "an appropriate and durable symbol of the cooperation and progress that makes America what it is."

DISTRICT PROFILE

McLELLAN of CALIFORNIA

RODERICK IRVING McLELLAN, president of the California Association of Soil Conservation Districts, does things in a hurry. In 1926 he completed the regular 4-year course at Stanford University in 3. And while there, he was a varsity trackman in the 2-mile and cross-country events.

With the idea of choosing studies that would be of immediate use, he specialized in economics, botany, and entomology. A few years later, still intent on speed, he worked with a brother in pioneering the shipment of flowers by plane, so that they could arrive on the New York market crisp with morning dew.

Hurry, with McLellan, is more than habit. It reflects sureness of purpose, and enthusiasm. And it succeeds by virtue of lean vigor and tested competency.

Behind Roderick is the legend of an adventurous grandsire who came West in the fevered fifties to hunt for gold, and remained to utilize the more dependable wealth of superior climate and soil. McLellan's father first gave attention to dairying, general farming, and horses. Later, higher profits lured him into flower production. During World War I, flowers gave way to the growing of grains. In World War II, they stepped aside for mundane but nutritious cabbage.

The McLellan orchids have become internationally famed. Some of them sped by air to brighten the wedding breakfast of Princess Elizabeth.

Of eight living children, three brothers are actively working in the E. W. McLellan Co., Colma, Calif. Roderick is secretary and in charge of production. He emphasizes that he does not run a nursery; he grows flowers.

"There are people," he notes, "who will spend their last dime for a posy. They need food for the soul as much as food for the stomach."

McLellan always has worked hard. But he never earned a dollar from any other source than the joint family enterprise. At 14, with workers hard to get, he was doing a man's job around the place. His first day out of college, while shoveling manure, he had to duck behind a truck to avoid being seen by gay co-ed friends passing by. But if his labors seemed humble to him then, he was to know eventually the satisfaction of becoming "the gardenia king" and one of the world's foremost growers of orchids and heather. The generation of young ladies he knew as a youth were to wear shoulder corsages which originated at the McLellans by the thousands and scores of thousands.

Roderick McLellan is a veteran in the work of the San Mateo Soil Conservation District. This was the first district in the State, having been organized a dozen years ago. He speaks enthusiastically of "the sincerity and competence of everyone in it."

An idea man, McLellan is widely in demand as a leader. He became a member of his district's board of supervisors in 1943, and in 1947 moved up to the presidency. He has been president of the Rotary Club of Burlingame, a member of the AAA county committee and of the county agricultural war board. He was area president of the Associated Farmers. He was one of two men who founded the California State Florists Association. He belongs to the American Orchids Society, the California Orchids Society, and the Society of American Florists.

Every year he lectures on business methods and cultural practices in floriculture at Ohio State, Cornell, and Illinois University. When Illinois sent him a check to cover expenses he returned it for use on research.

McLellan lives in Hillsborough, where he was born in 1902. There is a little daughter, Lynn, going on four, who undoubtedly is responsible for much of the warmth that lights her father's blue eyes, a special light that not even a thousand-dollar orchid hybrid can quite induce. And in New York is an older daughter, Joan, who is making a career in advertising.

Sixty-two acres are cultivated at Colma, 72 at Half Moon Bay, and 22 at Mount Eden. Except for green manure and cover crops, everything is in flowers. Flowers stay on sometimes as long as 8 years running. Orchids and gardenias are the big items, with acacia, heather, roses, and carnations following. Ten acres are in daffodils and three in camellias. There are 2 acres of orchids under glass, each acre yielding a gross of $65,000 to $75,000 a year.

Every bit of soil is essentially man-made. And every bit of introduced soil, peat moss, manure, and other materials is steam-sterilized. There is formaldehyde at strategic points on the floors. Extreme precautions are taken because the entry of a fungous or virus disease could bring tremendous losses. Soil testing and tissue testing are among the advanced techniques.

As production manager McLellan must be farmer, scientist, and efficiency expert. Floriculture is one of the most highly specialized, intricately joined of all agricultural enterprises. Here at Colma I saw management at its best, typified by grading and packing gardenias on

an ingenious continuous-belt assembly line, with 30 workers unerringly guided by a system of colored panels. Here, too, I saw science in meticulous application in the hybridization of orchids, from agar culture to full-blown blossom. And, again, I saw the most modern business practices on display—sound sales psychology in the form of a vast glassed building devoted to potted orchids open to hobbyists, who freely roam, look, and choose, with charts and colors and labels as guides; cleverness also in the design of boxes for shipping potted plants, which makes it almost impossible not to keep them right side up; an enlightened personnel policy which includes incentive system, paid vacations, and group insurance.

The evidences of good management are all around: some 15 hothouse acres equipped with overhead sprinkler irrigation; other acreages fitted with low-level sprinklers; canvas second-ceilings, adjustable for regulation of humidity and circulation and light; golf tees in seven different colors thrust beside plants to indicate days of the week to cut blooms. In one great room I saw 20,000 gardenias; in another, over 10,000 orchids awaiting a holiday. Colma's cool evenings are important to this large flower farm; they are complemented by systems of steam heating and electric lighting. Temperature, moisture, and light are the factors which regulate blooming. McLellan turns on the lights about July 1 and keeps them on until the first of November, at which time they are turned off to get quick blooming.

In California flowers are a major crop. Their value is about $32,000,000 a year. Except for Government materials, flowers constitute the largest single item shipped by air, and, as pointed out previously, the McLellan brothers are old-timers in this mode of transportation.

One of Rod McLellan's contentions is that there should be suitable credit allowed under the inheritance laws when a farmer dies leaving his place in an improved condition.

Today he pins the future of American agriculture to soil conservation districts. Every acre of productive land should be in a district, he contends; and every district should search out and find its highest potentials of service to the community. Nearly everywhere, he observes, the biggest job of all is education.

—WELLINGTON BRINK

WATER SHORT BUT MANAGED

By VIRGIL S. BECK

THE people of Costilla County in southern Colorado this year observed the hundredth anniversary of the filing of the first water right in the State. This involved the old San Luis Peoples Ditch, in 1852. The old San Acacio Ditch was constructed about the same time, and the 875-acre farm about 2 miles south of San Acacio which Walter Lyckman operates for his mother was irrigated from an extension of this ditch during the first 2 years of ownership. Since 1912 the farm has been watered through the Sanchez system.

Water has been vital to this area for a whole century. And the conservation and management of water is the key to Lyckman's farming.

The Lyckmans came down from Fort Collins in 1909. Since 1911 Walter and his mother have lived on the farm, with Walter as its manager. Ernest, a younger brother, has his own farm in the vicinity, while Walter operates still another 240 acres 2 miles east of Mesita.

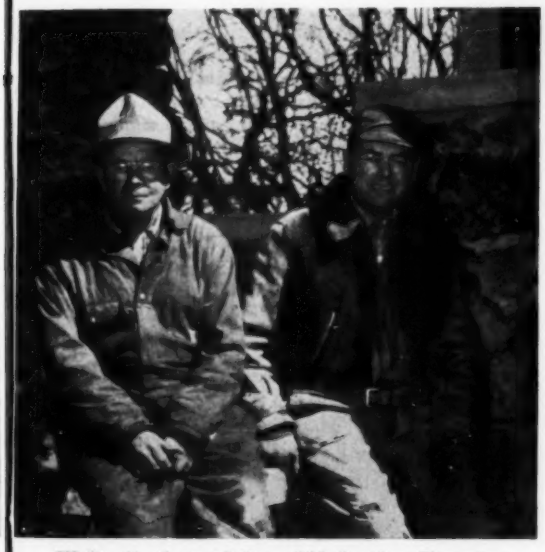
Mrs. Lyckman recalls that their first crops were peas, grain, oats to provide hay for the livestock, and a few potatoes. The ditch company had contracted to get water to the farms in the area in 1911, but failed to do so. As compensation, the farmers were paid $9 an acre and allowed to keep what few crops they had been able to produce.

Ever conscious of the necessity of making the most efficient use of irrigation water, the Lyckmans started rough leveling of their land with horse-drawn fresnoes. In that early day much of the plowing was done by steam-operated custom rigs.

Field peas were the chief reliance. The Lyckmans bought and fed lambs on their feed crops, and usually planted about 15 acres to potatoes. Yields were good no more than 1

Note.—The author is in the information division, Soil Conservation Service, Albuquerque, N. Mex.

This windbreak—1,750 trees—was planted on the south side of Lyckman's farm in 1935. Many of the trees now are 40 feet high, giving the farmstead protection from the strong winds.



Walter Lyckman, left, and his brother, Ernest.

year in 5, as the leaves were prone to suffer from blight and turn yellow.

In 1928, it was discovered that the psyllid insect was causing the potato blight over much of Colorado. Spraying with lime and sulphur was invoked, and potato yields generally have been good since.

As yields improved, the Lyckmans put in about 50 acres of potatoes and quit their lamb-feeding program.

The mounds of huge kangaroo rats have made irrigation difficult. Gradually, however, Walter Lyckman improved his land by leveling with drags and floats.

When the Sanchez Soil Conservation District was organized in 1947, Ernest Lyckman became secretary-treasurer, a position he still holds. He was the fourth farmer to sign a cooperative agreement.

Soil Conservation Service technicians helped Lyckman to plan a conservation program. His farm has 758 acres of irrigated cropland and 72 acres in dry pasture.

Lyckman started survey-leveling immediately, renting district machinery, and completed 90 acres in the fall of 1947. Since then 650 acres have been leveled, only 105 acres still remaining to be treated. Some of the leveling was done by contract, at a cost of $70 per acre. Lyckman considered this rather expensive, and as a consequence he bought his own equipment and began doing the work himself.

Irrigation ditches have been relocated for more efficient use of water, and 100 acres have been subsoiled to give better water penetration.

The water supply was short in 1951, crops were below average. But on 65 to 70 acres of alfalfa Lyckman produced some 2 tons to the acre. On 75 to 85 acres of potatoes he got 300 sacks to the acre. Oats and peas were grown on 220 acres, while 125 acres were planted as an experiment to Moravian barley which is used in malting. The barley experiment proved successful, and barley has been adopted as a cash crop. The rest of the land was not cultivated because of the water shortage.

Lyckman now has a flock of 150 ewes which consume all his feed crops and clover. All barnyard manure is used on the potato fields, and additional quantities are purchased. In addition, 500 pounds of commercial fertilizer to the acre are applied.

In his rotations, Lyckman seeds a field to grain and clover and then uses it as a clover pasture for sheep the second year. The clover then is plowed under as a green-manure crop to improve soil fertility. Potatoes are planted the third year. Fields are kept in grain 1 to 2 years, depending on conditions.

In 1935 a windbreak of 1,750 trees was planted along the south side of the farmstead as protection from the prevailing southwesterly winds. They are now 40 to 50 feet tall. They include Russian-olive, Chinese and American elms, honey locust, box elder, and green ash.

In his efforts to make the most efficient use of water, Walter Lyckman, who is mechanically inclined, has put together a sort of disker and leveler with which he builds his irrigation borders. The machine has six disks, three on each side with the width of the desired ridge between. The disks are set at angles of about 45 degrees so they can turn up the dirt for the irrigation border ridge. Immediately behind the disks are two small leveling blades. As the disks throw up the ridge, the levelers fill in the furrows made by the disks and the borders are completed in a single operation.

Lyckman makes his borders 17 feet wide and a quarter mile long. After long experimentation, he has found that a 3.5-cubic-foot-per-second head of water flowing for exactly 30 minutes puts 4 acre-inches of water on the border, which he has determined to be the needed amount for proper irrigation.

In still another effort to improve the water situation, Lyckman tried drilling two wells last year for supplemental irrigation. This he found both expensive and well-nigh futile. One of the wells sanded up and clogged the pump.

Despite his battle with the century-old water problem, Lyckman finds time to play. He and his brother own their own planes and are experienced flyers. When farm work is not too pressing, they hop away in their planes for a few days of deep-sea fishing in the Gulf of Lower California.

TIME TO PRACTICE.—J. B. Litchfield, work unit conservationist in the Roanoke–Chowan (N. C.) Soil Conservation District, got an application from Mrs. Ruth Storey for district assistance and helped her work out a plan for her farm. As she signed the agreement, she said, "'Parker (her son) has won the soil conservation speaking contest at Jackson High School for the past 2 years; I think it's about time for us to start putting into practice some of the things he's been talking about."

DISTRICT SEAL.—Supervisors of the Ogeechee River Soil Conservation District in Georgia have adopted a district seal similar to a notary seal. The seal, which bears the name of the district and date of organization (1940), will be used on all copies of the signature sheet of the district farm plans.

MORE PRODUCTION.—Edward Gardner, Stephentown, Rensselaer County, N. Y., dairy farmer, is doing his part to meet the demand for increased crop production by establishing strip cropping. Last year, he says, strip cropping in a 17-acre field boosted his corn yield nearly 100 percent—from 75 to almost 150 bushels per acre. In addition he says the strips are saving 150 yards of topsoil heretofore lost annually through erosion.

George E. Lane.

DISTRICT PROFILE

GEORGE E. LANE
of
SOUTH DAKOTA

George E. Lane retires after 14 years as an elected supervisor of the Brown-Marshall Soil Conservation District. He was born November 4, 1884 at Monango, N. Dak. He received his education in the public schools of Ellendale, N. Dak., and his higher education at Ellendale Normal. In 1902 he started his banking career in an Ellendale bank, and in 1922 came to Hecla, S. Dak., to take over the presidency of the First National Bank, a position he still holds.

Although he is not actively engaged in farming operations, there is no one more firmly convinced of the value of practicing good conservation than George E. Lane. He has been an elected member of the board since its inception and during all of that time has served as treasurer. He had seen poor management of the fertile sandy loam soils of his community and its results during the drought and the wind erosion of the 1930's. He was one of the first in the Nation to see the value of soil conservation districts and to promote one for the wind-eroded area of Brown and Marshall Counties.

The Brown-Marshall Soil Conservation District was the first district organized in South Dakota and the thirteenth in the United States; and it has contributed much to soil rehabilitation of this area. There have been 920 complete conservation farm plans prepared between the cooperators and the district.

Being a banker all his adult life, Lane looks at the value of soil conservation from a little different slant than does the average person:

"Soil erosion costs the people of the United States billions of dollars a year in wasted land, declining crop yields, railroad and highway damage, flood losses, silting of reservoirs built for water supply and power. Everyone pays part of the cost. It is not just the farmer's problem, it is the problem of the businessman as well. Crop yields decline as erosion progresses. Eroded range lands feed fewer livestock. Abandonment of fields and finally of farms is the eventual result of unchecked erosion. Farm incomes, buying power, and living standards are lowered. People are forced to move away. Trade is lost to towns and cities dependent on a profitable agriculture. When a farm is eroded out of production, it also stops yielding tax revenues for the support of schools, roads, and other public services. Churches and orphanages also suffer. The burden of the remaining productive land becomes heavier."

During the past 14 years, Lane has given unselfishly of his time, effort, and counsel in guiding and promoting the work of the Brown-Marshall Soil Conservation District. He has watched farming methods improve, through the assistance made available through the district. It has been through his efforts that thousands of acres of trees have been planted, crops improved through rotations, grasses and legumes planted, land leveled, and numerous other soil conservation practices carried out. All of these have improved farming operations, increased farm incomes, and conserved soil for future generations.

—GEORGE H. COULTER.

SCIENCE TACKLES MOUNTAIN SLOPES

By BERNHARD A. ROTH

District and technicians saved slopes such as these in Belknap recreation area.

THERE are quite a number of things you wouldn't be thinking of schussing down the Tiger Trail with the northeast wind spraying snow against your skiing goggles. You'd be busy steeling your nerve for a gelundesprung off the terrace halfway down, or a flashy Christy away toward Phelps Slope. You might even be wondering if the gang was watching for a whopping sitzmark—they warned you to strap an extra pair of skis to the seat of your pants.

It's a safe bet you wouldn't be thinking about *soil conservation* while rocketing down a long mountainside in New Hampshire. The business of fighting gullies, floods, and agricultural disasters would seem to have little connection with hissing boards and flapping parkas on a ski slope at the height of the season. But here is what happened at the famous Belknap recreation area.

Belknap is a beautiful natural bowl of fun for summer and winter outdoor sportspeople. Enclosing the "bowl" are half a dozen 2,000-foot mountains with picnic spots and trout rills, and miles of trails for hiking. Skiers in winter ride the 3,200-foot chair lift through subarctic sunlight. From the top they can see the snowy peaks of the Presidential Range lifting their heads above the far shores of Lake Winnepesauke.

Since 1937, when the Civilian Conservation Corps completed this million-dollar playground and turned it over to the county, Belknap has drawn more and more "snowbirds" from the big cities of the Northeast. Recent years, on week ends when the snow base was good, have seen the 3,000-car parking lots packed to capacity, the huge Alpine-style lodge filled to overflowing, and the trails and jumps alive with fast, skiing action.

To take care of the crowds, several new slopes were opened. Trails were widened and lengthened. In the process, bulldozers knocked down trees, dug out rocks, pushed stumps aside, and sometimes scalped off the tough mountain grass and shrubs.

Skiers liked the results. They found the broad, unobstructed chutes perfect for the slalom or just straight, downhill, speed runs. Everything was fine until spring.

One wet morning, however, Manager Fritzie

Note.—The author is with the information division, Soil Conservation Service, Upper Darby, Pa.

Baer looked up at a new slope and was disturbed to see scars in the earth exactly like those he had seen on run-down and abandoned farm land. Waters from thawed snow and ice were ripping through the scarred places. Baer walked up the steep trail and noticed that raw spots started wherever the cover vegetation had been damaged. The little gullies were only a few inches deep, but Baer was enough of a conservationist to know they'd get deeper fast. A torrential August cloudburst might send half the slope down onto the parking lot below.

Baer sought help from the soil conservation district headquarters in Laconia. District supervisors were all local farmers, with a stake in Belknap's natural beauty and the brisk trade visitors brought to the stores, restaurants, and tourist homes. Supervisors took up the problem with technicians of the Soil Conservation Service.

For many days activities on Belknap's 800 wooded acres and clearings resembled those to be seen on many a conservation farm.

SCS engineers estimated the amounts of water that might pour over the long, bare slopes in summer rains and spring runoffs and the speed and volume that might occur anywhere along trails that frequently pitched down at sharp angles. They drew designs for diversion terraces that would carry water away from critical areas and lead it harmlessly to nearby brook beds or protected woodland outlets.

Farmers of the district loaned bulldozers, graders, and hand tools for the job. Channels and shoulders of the terraces were scooped out along the level, contour lines established by the engineers.

One final task remained—getting something to grow again on the naked soil. This was quite an undertaking on poor, terrifically steep ground. To protect the soil, a tough sod was needed. It would have to resist the attacks of erosion and the steady pounding of thousands of hikers, climbers, and skiers year after year.

The technicians utilized experience gained while renovating rugged old pastures nearby. They cultivated a bed about 2 inches deep and sprinkled a heavy seed mixture, 52 pounds of grass and legumes per acre. They added 500 pounds of fertilizer and 2 tons of pulverized limestone, and firmed the soil with heavy field rollers. They left Belknap with fingers crossed, and a silent prayer that a storm wouldn't cancel off their work before the seeds sprouted.

There's a diversion terrace here which skiers use for crossing and turning.

Belknap has gone through one successful skiing season since then. And Fritzie Baer has looked out upon his slopes in rain, snow, and sunshine and observed with satisfaction that they're right where they belong—thanks to the science of soil and water conservation!

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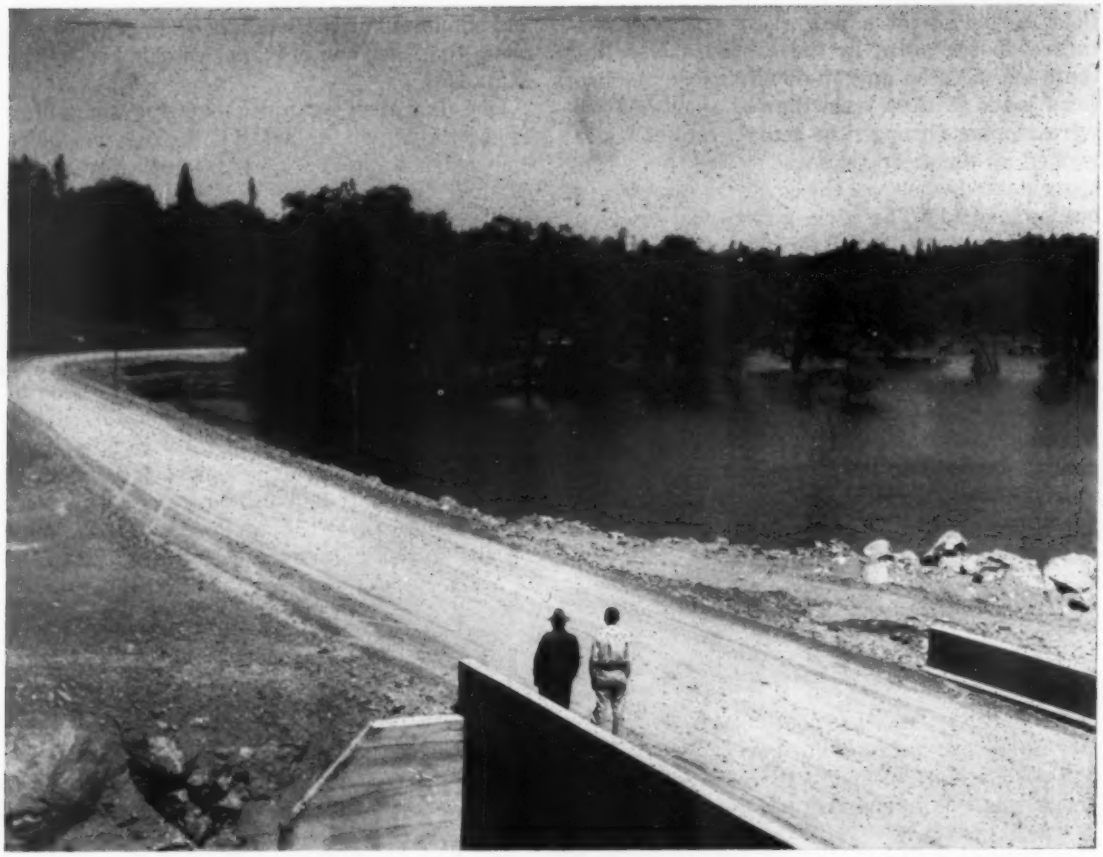
12 PRIZES IN ONE.—What can be a more appropriate award for achievement in soil conservation than a year's subscription to SOIL CONSERVATION Magazine? Place subscriptions with Superintendent of Documents, Government Printing Office, Washington 25, D. C., at $1.25.



Dam of John D'Agostini. Over the top goes a county road. Water capacity is 500 acre-feet.

STORAGE PONDS MULTIPLY VALUE OF RANGE

By HERB BODDY

WATER "strikes" in the form of scientifically planned irrigation ponds are dotting the scene of the old Gold Rush diggings around Placerville, Calif., today.

Some 151 ponds, storing more than 6,250 acre-feet of water, have been constructed in the Central El Dorado Soil Conservation District, and many more are planned.

Note.—The author is a member of the information division, Soil Conservation Service, Portland, Oreg.

Most of the earth-fill reservoirs were built to meet long-time water shortages and to irrigate native dry-land range. But ponds are handy, too, for a cool summer plunge or a bit of fishing.

Farmers like the way storage ponds and dams have turned low-producing dry lands into lush, green forage. The irrigation water has increased farm-land values; land under irrigation is worth five times as much as dry land of the same class.

Even farmers who use irrigation-district water find it pays to own a pond or two. The irrigation district supplies water for only 4 months out of the year; while runoff-fed ponds

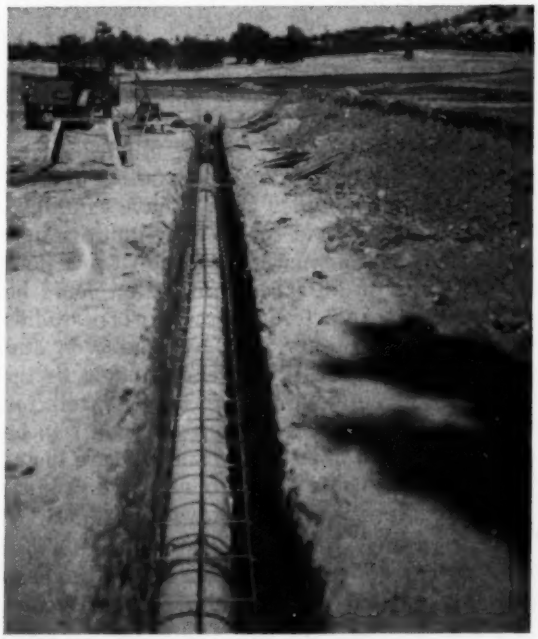
can be tapped from early spring to late fall.

At first glance, an upland pond looks simple to build. But there is a lot more to dam building than meets the eye. You can try to dam up a small canyon or hollow by piling up dirt, but the odds are your dam won't stay.

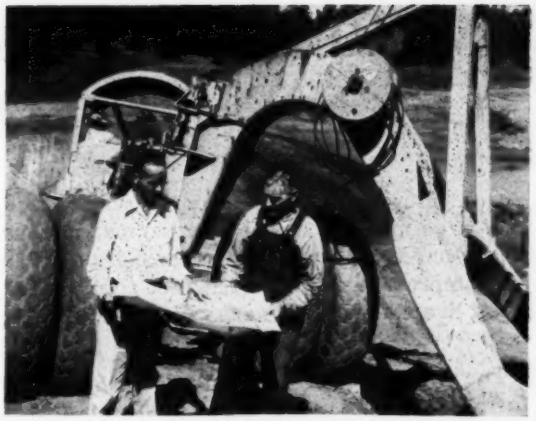
To be on the safe side, says R. E. (Doc) Mason, work group engineer on the Placerville staff of the Soil Conservation Service, dams should be planned properly. The farmer and his contractor should go over the plans together. It is important to pick the right season to begin work. In rainy seasons costs are usually much higher and there is always a chance of floods. In the dry summer months the cost of watering the fill for proper construction may be too high.

In the El Dorado area, laying a good foundation for a dam comes well ahead of the fill. Because stream beds have been placer-mined, it is necessary to strip them down to an impervious base to avoid excessive seepage. Bedrock in some areas is so fractured that much seepage can be expected.

Mason, who has laid out many irrigation dams and ponds for farmers in the Central El Dorado, Sierra Valley, Nevada County, Mono County, and Placer County Soil Conservation Districts, gives these tips on dams:



Outlet pipe of Robert Jameson dam, ready for welding of reenforcing steel. Later the trench was filled with concrete. The dam provided a storage capacity of 120 acre-feet.



SCS engineer and Ted Heusner, rancher, go over the plans for dam at Shingle Springs, in El Dorado County. Capacity is 185 acre-feet of water.

1. Weigh the cost of building one against the gains you will make from the extra irrigation water. Be sure you will gain by building one.
2. It takes 4 acre-feet of stored water to irrigate an acre of pasture for a season.
3. A good dam site is the first keystone. Dams must have a good foundation to hold water. The amount of leakage you get depends largely on what the base soil is like.

L. D. Stodick, whose ranch is near Placerville, used to run cattle on Forest Service land. He was lucky if his stock came back from summer range without losing weight. Nearly every year he lost a number of head on the rented range, and most years he marketed his cattle in the spring. The upland dam he put in 3 years ago solved most of his problems. He now keeps his cattle on irrigated pasture nearly the year around. That means he can graze his stock longer, fatten them more, and get top beef prices. About 200 acres of improved pastures are now watered from Stodick's storage pond and he plans to irrigate another 100 acres this year.

L. W. Veerkamp, who heads the Central El Dorado District board, has one of the best orchards in the Gold Hill section. He said that

(Continued on page 285)

AMERICA'S CAPACITY TO PRODUCE FOOD

Excerpts from an address by Dr. Robt. M. Salter, Chief, Soil Conservation Service, at the National Farm Institute, Des Moines, Iowa.

Our future capacity to produce will depend in a large measure on the way we manage our soil resources. Advances in other fields such as crop improvement, improved pest control, and better livestock management will contribute, too.

. . .

During recent years soil research has brought forth much new knowledge about the causes of soil deterioration and methods for combating it. For example, we have found that some soils, although naturally infertile, can be made highly productive. Many fields once considered worn out or useless can be made to yield abundantly. Some already are.

We have also found that naturally fertile soils that have lost productivity through use and abuse often can be rejuvenated. Already, productivity is on the "come-back" on many farms where yields were falling off because of declining soil fertility.

As a result of these findings over the years there has gradually evolved a changing concept of soil conservation. The modern concept has come to mean applying the necessary practices on a farm to increase production and to build up soil productivity, both at the same time. It means making soils yield abundantly year in and year out for an indefinite period. It means rebuilding strength in the land.

. . .

Good practices used in the right combination create interactions that give an *added boost* to production. One good practice may be beneficial, but the advantages often pyramid when several good ones are used in the right combination. The reaction is much the same as hybrid vigor in corn.

I can best describe this principle with an illustration that I think you Iowa farmers will appreciate. In the South, corn yields always have been low. Until recently they never averaged more than 20 bushels per acre. For years farmers and scientists tried one new practice after another. But they couldn't get corn yields to go up much. They tried corn hybrids. They tried using more fertilizer. They tried increasing the stand. They tried first one thing and then another, but without much luck.

In 1944, they changed their approach. Instead of testing first one practice, and then another, and then still another—they tried several of them all at once. They tried *combinations of practices* and found some that hit the "jackpot." Corn yields jumped from 20 bushels to 80 bushels per acre.

During the last 5 years thousands of southern farmers have started using these new combinations of practices. Consequently, average corn yields have been *doubled* in some Southern States.

. . .

There is plenty of evidence throughout the country that we haven't yet put into use all of the best combinations. Several studies aimed at estimating agriculture's *maximum* production capacity are under way. I have examined preliminary results of some. They indicate that with the best combinations of known practices put into use on all farms production could be increased from 60 to 75 percent. The studies indicate, for instance, that average *corn* and cotton yields in the United States could be increased about 75 percent. The potential for small grain and soybeans doesn't appear to be quite that high, but for hay and pasture it appears that we could double our forage production through grassland improvement.

There are two points I want to make about this maximum *potential* capacity to produce. First, it is based on present knowledge. It does not take into account new technology to come from future research. Second, the potentials are for ideal situations. They assume the application of the best known combinations of

practices for each farm and for each crop, and that every farmer would give top-level management to each acre of his land.

Obviously, we will never realize this ideal, yet it is completely within the realm of practicality to expand greatly our capacity to produce by making better use of technology now available. This is demonstrated by the difference between what the average farmer is doing and what the best farmers are doing. The best farmers in all parts of the country are making their soils produce about double what the average farmer is producing.

. . .

Also, there are sizable opportunities for expanding our future capacity to produce by bringing idle or unproductive land into use.

. . .

To bring sizable areas of *new* land into agricultural production would involve considerable public expenditure. I don't intend to discuss that phase of the problem this morning, except to point out that in considering America's capacity to produce food we cannot overlook the possibilities of bringing new land into production.

. . .

Most systems of farming that give efficient production on a sustained basis need to be planned ahead for several years. Many of the best practice combinations give the greatest returns over a period of years—say 5 to 10 years. One of the first requirements for a more rapid expansion of our capacity to produce food is to make possible such forward planning by *more* farm families.

. . .

In a democracy we don't force farmers to do all these things. We don't use devices that sacrifice individual freedom. Instead, we rely on (1) education, (2) technical assistance, and (3) financial assistance to *help* farmers with this job.

Farm prices come into the picture, too. If prices are too low, the farmer doesn't have the cash to finance the practices needed to put his plan into operation, or the materials to keep it going—such materials as fertilizer, legume seed, weed killers, and others. Farmers cannot carry out well-rounded plans without adequate prices.

. . .

While adequate prices are necessary to keep a plan in operation, many farmers need *financial assistance* in order to put conservation farming into practice. Applying a basic plan often requires considerable capital investment. Moreover, shifts to conservation farming often require *temporary* economic sacrifices since some time may be needed for returns from the new system to equal and exceed returns from the old system.

. . .

The development of forms of public and private credit better geared to the repayment potentials of conservation farming would aid materially on many farms. On the other hand, on some farms in most areas, and on most farms in some areas, the financial requirements exceed available resources. It may require many years for these farmers to pull themselves up by their own bootstraps. I doubt if the Nation can afford to wait that long and permit our soil resources to further deteriorate in the process. I am convinced that the urgency of the national interest justifies doing everything possible to help farmers get more of our improved technology into use on the land.

. . .

The opportunities are *real.* Their achievement is a challenge to all farmers because fundamentally the responsibility rests with every individual farmer in the United States. But, for him to get the job done—and done soon enough—it is imperative that he have the best possible information, guidance, and assistance. As Chief of the Soil Conservation Service, I am making it my primary concern to speed up the rate at which farmers get the sound on-site technical assistance in the field of soil, water, and crop management that they need to maintain and build up America's capacity to produce.

SCS EMPLOYEE DECORATED.—Captain Dirk van der Voet, 31, SCS soil scientist with headquarters at Concord, N. H., has been awarded the Bronze Star Medal with "V" device for heroic achievement in helping to halt a communist barrage in Korea.

Captain van der Voet served in World War II from 1942 to 1946, completed his education in agriculture at the University of New Hampshire in 1948, and joined the SCS in July of that year. He was recalled to active duty in August 1950.

CASCADE LOTUS, PROMISING NEW LEGUME

Portrait of an important new plant, Cascade Lotus.

By R. B. BRANSTEAD

DAIRY farmers along the west coast of Oregon and Washington got an answer this year to one of their most vexing problems: What to do with land that is too wet, too dry, too shallow, or too acid for alfalfa or clover. The answer is Cascade Lotus, a new variety of broad-leafed birdsfoot trefoil developed jointly by Soil Conservation Service nursery scientists and the Washington State College agricultural experiment station.

The announcement that limited supplies of Cascade Lotus seed would be on the market in 1952 climaxed nearly 15 years of searching, selecting, and testing by A. L. Hafenrichter, in charge of Service nursery work in the far West; W. E. Chapin, manager of the Bellingham, Wash., nursery; and A. G. Law, Washington State College grass-legume authority.

These three men realized many years ago that a different legume, such as trefoil, was vitally needed for use on soils that would not support good stands of alfalfa or clover. There are extensive areas of such soils along the Oregon-Washington coast. Numerous farmers in years past had experimented with the common, narrow-leafed varieties of birdsfoot trefoil, but with generally poor results. The greatest difficulty seemed to be in getting a stand. The trefoils then on the market were extremely weak in the seedling stage and offered little, if any, competition to weeds. Stands were extremely difficult to establish and seldom stayed in long when competition developed from other plants.

Hafenrichter, Law, and Chapin began hunting for a more vigorous strain of birdsfoot trefoil in 1938. They were confident that if a strain could be found that would show more "fight" farmers would welcome it.

They collected seed from all available strains and began a lengthy testing and selection program at the soil conservation nursery at Bellingham. The collection included many kinds of birdsfoot trefoil (*Lotus corniculatus*). As the tests went on, they discovered that three lots of an introduction from Italy with the unromantic title of FC 20,153 appeared to have the qualities they were after. These three lots

Note.—The author is information and editorial specialist, Soil Conservation Service, Portland, Oreg.

produced as much forage on a 5-year average as the best varieties of alfalfa.

Interest centered on some outstanding plants of FC 20,153. As superior plants were selected, they were moved to an isolated spot where they could not be contaminated by weaker strains. Here they were allowed to cross-pollinate and produce seed.

This seed was grown in three places in western Washington; Bellingham, Puyallup, and Vancouver, in a scientific test with other leading strains of Lotus. The Italian Lotus out-performed them all.

When enough seed was available, field trials were made throughout western Washington for three successive years to see if the plant would live up to its expectations on the farm. Results were impressive. The cross from selected plants was named Cascade Lotus and accepted and released to selected growers by the Washington State Crop Improvement Association in 1949.

Cascade Lotus is superior to other strains of trefoil in many ways that will be welcomed by farmers who have struggled to grow the common varieties in the past. The seedlings are more vigorous. They give far better competition to weeds and grasses and are able to hold their own nicely in a mixed stand. Cascade Lotus produces especially well when grown in alternate rows with orchardgrass. At Bellingham it yielded 2.31 tons per acre when grown with grass. There is more recovery after the first hay cutting and more summer grazing on nonirrigated pastures.

Although Cascade Lotus can be used on the poorer and more acid soils where other legumes will not thrive, still there is a limit to where it will grow. It cannot survive in swamplands or on peat, nor will it grow on soils that are extremely droughty. It can stand occasional flooding, but prolonged immersion for several weeks will kill it. It has not yet been proved winter-hardy east of the Cascade Range in Washington and Oregon.

The biggest draw-back to birdsfoot trefoil in the past has been the difficulty of establishing a stand. Cascade is much more dependable in this respect. It needs a firm seedbed, as weed-free as possible, that has been well packed to bring the moisture up to the seed. Seeds are planted not over half an inch deep. Rolling the seedbed after seeding frequently proved the difference during tests between success and failure in getting a stand started.

Recommendations of the Bellingham nursery are to use 4 pounds of Cascade Lotus with 4 pounds of orchardgrass or 6 pounds of Alta fescue per acre. Cascade must be inoculated with the right bacterial culture for the *Lotus corniculatus* family.

Fertilizing with superphosphate at 150 to 200 pounds per acre usually pays. Where soils are badly run-down, a faster and better seeding can be established by using 100 pounds of ammonium nitrate or 150 pounds of ammonium sulfate per acre at seeding time.

The tender-leafed, yellow-flowered Lotus has excellent forage qualities. It is readily eaten and liked by all kinds of livestock and has a feed value close to alfalfa. It is highly nutritious as hay or silage in a grass mixture. Also, it is considered by many livestock men to have less tendency to bloat than other legumes. Lotus also has a favorable effect on the keeping qualities and vitamin A content of milk.

Seed of Cascade Lotus is now being increased in western Washington under certification by

(Continued on page 285)

The new legume in a good stand on land unsuited to alfalfa or clover.

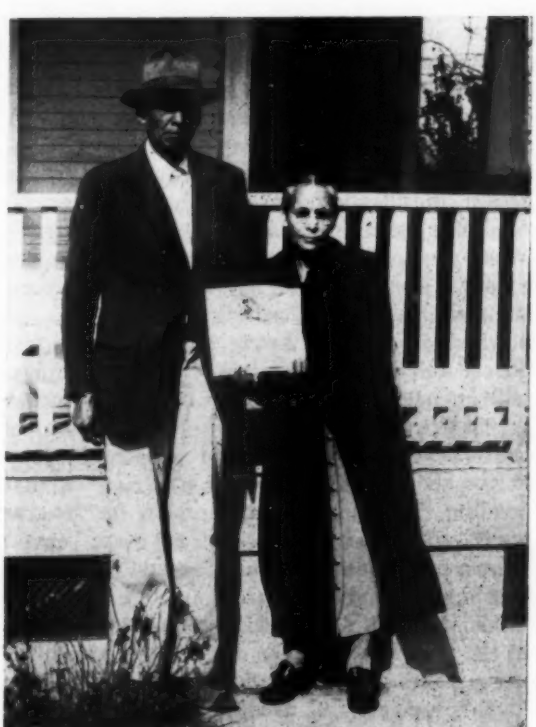
CREEK INDIAN LEADS HIS COUNTY

Strip cropping, terracing, and contour farming played an important part in the conservation plan.

By EVAN L. FLORY

GEORGE LONG, a Creek Indian, received the 1951 Bankers Award for Hughes County for soil conservation achievement at a meeting of the Oklahoma Bankers Association held at Calvin, Okla., January 8, 1952. The award was presented to Long in recognition of the outstanding job of soil conservation carried out on his allotment. This farm is leased to Clell Eddy under a verbal lease on a crop-share basis. Long was instrumental in starting the program and in seeing it carried out. From the beginning he furnished his share of fertilizer and soil-improvement money.

Eighty-five of the one hundred sixty acres rented to Eddy are in cultivation. In the 4-year period, 1944-47, the allotment returned to Long an average of $400 a year. The Eddy family was barely existing. Corn and peanuts, the principal crops, were planted in straight rows up and down hill with no conservation practices being observed. Average yields were running 15 bushels of corn and 20 bushels of peanuts per acre, and they were getting lower. In the



George and Betty Long proudly display award.

Note.—The author is chief, branch of soil conservation, Bureau of Indian Affairs, Washington, D. C.

fall of 1947, Long and Eddy, after consultation with the Wewoka Indian Soil and Moisture Conservation Work Unit, decided to carry out a conservation plan.

After surveys were made, it was determined that the most pressing need was to stop sheet and gully erosion. A terrace system was designed and staked by the technicians. Long paid the cost of construction not covered by PMA payment. Eddy planted his crops on the contour in 1948 and fertilized in accordance with recommendations of the technicians. Check plots without fertilizer were left in order to compare results.

When the crops were harvested in the fall, Long received $1,100 for his share of the crop. After deducting the $240 he had paid for terrace construction, he received $460 more rent than in 1947.

Conservation measures were continued in 1949, with hairy vetch being planted in the fall on a part of the land as a soil-building and seed crop. Since breaking from native sod about 40 years ago, the land had never had a protective cover in the winter, and no legume of any kind had been grown. Despite the fact that no combine was available to harvest the vetch seed at the proper time and much shattering occurred before harvest, it yielded 200 pounds of seed per acre, with a net profit of $20 per acre. Long's share of the crops in 1949 was $1,485. The year 1950 was a very poor crop year in Hughes County, but the farm paid Long $900.

By 1951 Eddy was convinced of the advantages of conservation farming. Terraces and contour farming had stopped sheet and gully erosion and had added 15 acres to the cultivated land by healing gullies, preventing overhead water from washing out seed and crops, and conserving moisture. Eddy was saved labor and money in not having to replant crops several times because of their having been washed out, silted over, or drowned out by heavy runoff and erosion. Application of fertilizer at planting time increased crop yields materially, and side dressing had boosted these yields still further. The use of vetch had further increased crop yields by 5 bushels per acre and had made the soil easier to plow and the crops easier to cultivate.

In 1951 Eddy's yield of peanuts was a little over 30 bushels per acre, against the county average of 15 bushels per acre. His corn yield was 50 bushels per acre, compared with a county average of 17 bushels per acre. For the 1951 crop year, Eddy paid the owners $1,500 in rent.

Eddy is no longer a "poor share cropper," struggling to make ends meet. He has good farm tools and equipment, and his family is free from want. When he first rented the farm he says he would not have paid $25 per acre. This fall he tried to buy it for $100 per acre. Naturally, Long refused to sell and proposed that Eddy rent additional land which Long owned with other heirs. The proposal, however, specified that the owners would terrace the land to be farmed in accordance with a conservation plan.

GAINS.—Kermit Blessum, of Rugby, N. Dak., a member of the board of supervisors of the Pierce County Soil Conservation District, has made as much money from hay and seed production as from a similar acreage in cash crop. Furthermore, soil fertility is being built up.

Blessum keeps 300 acres seeded to grass-legume, straight grass, or straight alfalfa. Some of this land is used as pasture to augment native pasture, some produces hay and seed. Blessum has sold some hay and seed, but intends to use most of what he produces at home. He keeps on hand more than a year's hay supply.

His custom is to seed 6 pounds of crested wheatgrass and 4 pounds of alfalfa seed per acre for hay, and 10 pounds of crested wheatgrass per acre for pasture.

The use of grass and legume in the crop rotation is part of the farm conservation plan developed in 1947 with the aid of the Soil Conservation Service. The first field was seeded that spring.

Besides using grass-legume, he also practices a 2-year crop rotation, alternating small grain and either corn or fallow. Part of the farm is sandy and subject to blowing. Stubble-mulch farming is practiced on all cropland. Cornland is double-cultivated instead of plowed. There are waterways to dispose of excess water, and there is also a field shelterbelt. PMA helped with the conservation plan.

The first grass-legume mixture was seeded in 1948 and plowed last spring. It was fallowed in 1950 and will be seeded to small grain this year. This will be Blessum's first chance to see what the effect on the crop will be. He already reports that the soil is more mellow.

TECHNICIANS FLY TO SPEED WORK

By GUNNAR M. BRUNE

EARLY last year the Upper Mississippi Region began a new experiment. A good deal of trouble was being experienced in reaching field offices by common carrier, and since a number of the technicians owned personal planes, it was decided to authorize their use for official travel.

The region has 520 work unit headquarters. To reach these small towns by train or bus was a tedious process, usually involving one or more lengthy stop-overs. Fewer than 5 percent of these offices can be reached by air line. Nearly all of them, however, have airports suitable for small planes. Where there is no airport, arrangements can always be made to land on the farm of a nearby district cooperator.

After a year's trial, airplane travel has proved an outstanding success in the Upper Mississippi Region. Staff members leave Milwaukee at their own convenience, fly straight to their destination anywhere in the region, and arrive ready for work. There is no waiting for train schedules and no stop-overs along the route. And costs have been reduced. The writer and technicians traveling with him have saved over $1,000 in travel expenses during the year by the use of a personal plane, largely by reducing the amount of time spent in travel.

But the original purpose of the experiment has proved to be only one of many advantages. Planes are being used in many ways to speed the work of getting conservation on the land. One of these is measuring the rate of gully erosion. This was formerly largely guesswork, based partly on information provided by the landowner. If the landowner had moved, the main source of information was gone.

Note.—The author is regional sedimentation specialist, Soil Conservation Service, Milwaukee, Wis.

The author with his four-place plane.

But by using a plane to photograph gullied areas periodically and comparing these photos with the original 1938-40 photographs, made by the Department of Agriculture, the exact rate of gully erosion for various periods can be established. This enables the technician to determine whether the rate of growth is still accelerating, or whether it has reached a peak and is now declining.

The Myers gully, for example, was found to be growing at the rate of 0.5 acre a year from 1938 to 1944. From 1947 to 1948 this rate of growth had increased to 1.45 acres a year, but from 1948 to 1951 it declined to 0.77 acre a year. The gully was thus found to have passed through most of its life cycle, and to be approaching a more stabilized condition.

Another use of the airplane in the Upper Mississippi Region is in measuring rates of stream-bank erosion. Formerly it was necessary, using valley cross sections, to measure the total stream-bank erosion since the area had been cleared, then divide by the approximate number of years during which this erosion had taken place in order to arrive at the annual rate of erosion. This frequently led to serious errors, because the present rate of stream-bank erosion may be greatly different from the average over the past 100 years or so. Using an airplane to photograph bank erosion provides an exact answer as to its present rate. When it became necessary to determine how much of the sediment which is filling Cleveland harbor is derived from sheet erosion and how much from stream banks, gullies, and other sources, aerial photography gave the answer.

Studies in the region show that aerial photography by Government employees costs less than having this work done on contract. The Michigan Conservation Commission, for example, recently paid a private company $2,500 for 312 aerial photos, or $8.01 for each photo. The SCS, using a personal four-place plane and K-20 aerial camera, took 450 photos of an adjacent area for $559, or $1.22 for each photo. This included all travel expenses for two men from Milwaukee to the area in Michigan and return, and flight over the area plus salaries, film, developing, printing, and overhead.

In the Upper Mississippi Region aerial photos are used extensively as base maps in making reservoir sedimentation surveys. Frequently, however, it is found that a reservoir had not been constructed when the 1938-40 photos were made. In such cases, "vertical" photos of the reservoir can be taken with a light plane and provide an inexpensive method of determining how much a reservoir's surface area has decreased because of progressive filling with sediment.

Numerous other uses have been found for small planes in the region. After last summer's disastrous floods on the Missouri River, the Mackinaw River in Illinois, and other streams, the writer's plane was pressed into service for inspection and photography of the flood-ravaged areas. John S. Glass, regional chief, water conservation division; K. G. Harman, State conservationist from Missouri; and the writer flew over the Missouri River bottoms. The photos obtained formed the basis for much of the emergency flood rehabilitation work now being done by the SCS in this area.

The use of planes for speeding up conservation surveys has been tried in several regions. Preliminary tests made in the Upper Mississippi Region are very promising. In Adair County, Iowa, for example, it was found that production could be increased from 1 square mile a day to 3 square miles a day by supplementing the ground surveys with short aerial observation trips. It was also found that the cost of conservation surveys in this area could be reduced from 2.6 cents an acre to 1.9 cents an acre by the use of a plane, and that the resulting maps are much more accurate. It is planned to intensify greatly the use of planes for conservation surveys in the near future.

Other uses for personal planes in speeding the application of soil conservation measures will undoubtedly be found. Upper Mississippi Region's experiment in more convenient and faster transportation has developed a tool for use in many phases of soil conservation. In addition, all of the SCS technicians who have taken part in this development have the inestimable advantage of really *knowing* the region, of being familiar with each erosion problem area, and of being able to follow progress in conservation in an intimate way.

CASCADE LOTUS

(Continued from page 281)

members of the Washington State Crop Improvement Association. Limited amounts of both registered and certified became available for the first time in the spring of 1952.

Although Cascade Lotus yields more than other strains of Lotus, it will not yield as much as alfalfa on deep, fertile, well-drained soils. Nor will it yield with Ladino on the better irrigated soils of the coastal area. But where these stand-by legumes cannot make the grade, Cascade Lotus looks like a highly practical and profitable substitute.

STORAGE PONDS

(Continued from page 277)

if his large dam had been built in 1937—the year the district irrigation ditch broke—it would have paid for itself the same year. His three reservoirs catch all irrigation runoff in his orchard. Water is then pumped back into the pipe lines for sprinkler and furrow irrigation. Thus, his water is used over and over. Next winter his ponds will be refilled with a fresh supply of runoff water from the uplands. Veerkamp doesn't know how many times he will use this water, but none will be wasted.

SEED PRODUCTION

(Continued from page 266)

State Plant Board, the State inspector of apiaries, and representatives of industrial firms concerned with phases of seed production.

The meetings were sponsored and arranged by the supervisors of the Washington County, Benton County, Madison County, and King's River-Long Creek Soil Conservation Districts.

—J. E. CRITZ

KENTUCKY FARMERS REDISCOVER SERICEA

By WALTER J. GUERNSEY

SERICEA LESPEDEZA is staging a comeback in Kentucky. It was planted in many places about 20 years ago, but most of the plantings were soon destroyed. We know now that they were not given the proper care.

When left to grow, it thrives and does well. Grigg Simms in Washington County, Ky., planted an old, gullied field to sericea in 1931 for erosion control and for seed. This field was literally "forgotten" for 17 years. The gullies were healed, the soil was held in place, and the fertility was greatly increased. It was cut for hay in 1948.

The come-back of sericea in Kentucky started on a small scale soon after soil conservation districts were organized. From 1941 through 1945, only 728 acres were planted by cooperating farmers. This increased to 5,378 acres in 1951.

Farmers now using sericea are enthusiastic about this five-way crop. It provides hay, pasture, and seed; improves soil fertility; and prevents soil erosion.

"I am mainly interested in getting something to grow on my hills that can be used for pasture and will not let the land wash away. Long-life stuff is better for the man and his country, too," said Tip Hurst, of Cannon, Ky., a cooperator with the Richland Creek Soil Conservation District. Tip was talking about his sericea-covered hill land.

Usually, sericea makes little top growth the first year. This is considered a bad feature by some, but Chester Root of Clay County, Ky., said, "I actually believe I got more off sericea the first year than Korean would have made, and on thin places it made real growth."

V. L. Cantrell, of Green County, Ky., made this observation about sericea hay. "Six head of cattle have been fed through the winter on hay produced from 2 acres of wasteland. My cattle preferred sericea to redtop, orchardgrass, and Korean hay from good land, so I sold it and kept my sericea at home."

Harvesting sericea for hay.

James W. Hayden, Mayfield, Ky., a tenant on the C. A. Byrn farm, harvested 594 bales of first-class hay from 4 acres. This was an average of 5 tons per acre. He made two cuttings and pastured the field for 2 months after the last cutting. Hayden won the grand champion prize on his sericea hay at the Jackson Purchase Fair in August 1951. His cattle liked the sericea hay. His cows doubled production within 3 days after changing from Korean and grass hay to sericea hay.

Sericea hay is of better quality if mowed when it is young and tender—10 to 14 inches high—and it should be raked soon after cutting.

Tip Smith, a Goose Rock, Ky., farmer and veteran agricultural teacher has 25 acres of sericea on his own farm. He says, "I tell the men in my class that if they have only 2 acres of land they ought to put 1 of the 2 acres in sericea."

Harvesting of sericea seed may eventually develop into a cash crop for farmers.

Leonard Grief, Paducah, Ky., thinks he would have made more money by harvesting

Note.—The author is nursery manager, Soil Conservation Service, Paducah, Ky.

all his sericea seed and letting his soybeans shatter in the field. He harvested about half the serecia seed on 16 acres.

Fred Travis, of Crittenden County, harvested 465 pounds of clean seed from 1 acre. He is planting more acres this year.

Sericea has a vigorous root system that penetrates deep into the soil. It also lays down a dense leaf litter. Stems, roots, and leaves help hold the soil, especially on steep hills.

Although the spread of sericea has not been so spectacular as that of Kentucky 31 fescue, it is beginning to fill the need for a long-lived perennial legume on land too steep for cultivation. Many farmers are finding sericea and fescue grow well in combination. Thomas B. Shackleford, cooperator with the Lee County Soil Conservation District in Kentucky says, "Sericea and fescue are the salvation of our mountain counties. I am seeding all my pastures to this combination."

At the SCS nursery, Paducah, Ky., a 5-acre field of sericea 5 years old was plowed under and planted to Kentucky 31 fescue during the fall of 1947. With no fertilizer this field produced 650 pounds of seed per acre the following spring. The good effects of the sericea were still noticeable on the fescue after 4 years.

A. B. Ray, Graves County, increased his corn yield from 12 to 80 bushels per acre by growing sericea the 4 years previous. This was on Class IV land, generally considered too steep for safe cultivation.

Stock graze sericea most readily when it is young and succulent. It should be mowed, if necessary, to provide tender new growth.

Many farmers have found that it is convenient to have a field of sericea to turn cattle into when other pasture dries up.

IDAHO PROGENY.—More and more, the soil conservation districts are putting type to work. Latest, and one of the best, of the State periodicals is *Conservation Farming in Idaho,* which made its bow in February. This is a newsy 12-page, 3-column quarterly, illustrated by halftones and supported substantially by advertising. It is the official spokesman of the Idaho Association of Soil Conservation Districts.

The first two copies off the press were presented to Waters S. Davis, Jr., president of the National Association of Soil Conservation Districts, and Dr. Robert M. Salter, Chief of the Soil Conservation Service.

This publication is the result of several years of effort on behalf of the State association. The managing editor is Don E. Lloyd of Lewiston. Other members of the business staff include Marion Holben of Genesee, business manager; Don Benedict, Culdesac, circulation manager; Harold Snow, Moscow, advertising manager; Roy Emerson, Genesee, treasurer; Louise Lloyd, Lewiston, associate and art editor.

It is most interesting to note that all of the foregoing persons are past supervisors who have served as soil conservation district supervisors of their respective districts for one or more terms.

Beef cattle and sericea, a fine combination.

Harold Whittier, left, receives trophy on behalf of district from Charles Kendall of the sponsoring bank. Ralph Easterbrook, right, is district chairman.

CONTINUED ACHIEVEMENT.—An interesting new idea in the recognition of achievement in conservation farming is found in Massachusetts where the emphasis has been shifted from "achievement in 1 year" to "continued achievement." This new slant had its debut in Worcester County, where the First National Bank of Webster has donated a trophy to the Southern Worcester County Soil Conservation District, which will present it annually to a farmer "in recognition of continued achievement in conservation of soil and water." The 1952 winner is Felix P. Default of Spencer. The shift in emphasis should encourage establishment of complete conservation plans, according to conservation leaders who have observed too often that winners of awards for a year's achievement have failed to carry through in succeeding years. In several large conservation-farming contests in New England a like shift in award emphasis is being considered.

Rock being escorted from field by bulldozer.

ROCKS SAVE SOIL.—When a face lifting was held in 1949 at the Hadala farm, Adams, Mass., many large rocks—some weighing 20 tons or more—were lifted out of the fields and rolled into gullies and other waste spots. Many wondered if any good use could ever be made of them. Now they've become soil savers. Prized by Army Engineers because of size and weight, the rocks have been trucked to a flood-control project in the Hoosic River near North Adams and put to work as riprap to protect the stream bed and banks, and hold the river in its channel. With the stilling basin and silt traps, flood crest will be lowered, and with the stream channel protected, damage will be reduced.

ROTARIANS HOSTS.—For their March 1952 meeting, the Rotarians of Black River Falls, Wis., were hosts at a banquet for 61 Jackson County Soil Conservation District farmers who had been judged outstanding in the 1951 grassland-farming contest sponsored by the Wisconsin College of Agriculture. In looking over the guest list, Joseph D. Zellinger, SCS work unit conservationist, found that all 61 were cooperators with the Jackson County Soil Conservation District, with farm plans prepared with the assistance of the Soil Conservation Service.

The Bender family.

CONSERVATION PROGRAM FOR ISRAEL.—William H. Bender, who for 6 years has conducted the training school for the Upper Mississippi Region at Coshocton, Ohio, has been granted a 1-year leave of absence to assist the new State of Israel in setting up a soil and water conservation program. After a short briefing period with the Food and Agriculture Organization of the United Nations in Washington and Rome, he will be stationed at Nathanyia on the Mediterranean, 20 miles north of Tel Aviv. Most of his time will be devoted to the training of 150 soil conservationists who will become the field staff of the Israel Soil Conservation Service.

Bender's training work has attracted world-wide attention. In 1949 the training school at Coshocton was the subject of a Voice of America broadcast. Agricultural publications in many countries have printed stories about his work at the school; and he was given an award for superior accomplishment by the Service in 1949.

Mrs. Bender and their two daughters, Deena and Sandra, will accompany him on his assignment. Although English is well understood in Israel, there are no English-sponsored schools. The whole family expects to learn Hebrew.

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